

## DESC IRP Stakeholder Advisory Group Planning Meeting

October 12, 2022

### Meeting Participants

- DESC
  - Eric Bell
  - James Neely
  - Betty Best
  - Sheryl Shelton
  - Adam Bidwell
  - Scott Parker
  - John Raftery
  - Andrew Walker
  - Iris Griffin
  - Bradley Perricelli
  - Joseph Stricklin
  - Keller Kissam
- CRA
  - Pat Augustine
  - David Walls
  - Jeff Plewes
  - James Russell
  - Abigail Sah
  - Cyrus Sabharwal
- Advisory Group
  - Anna Sommer
  - Anthony Sandonato
  - Ben Garris
  - Blan Holman
  - Brad Slocum
  - Derek Stenclik
  - Dori Jaffe
  - Earnest White
  - Eddy Moore
  - Emma Clancy
  - Findlay Salter
  - Forest Bradley-Wright
  - Gretchen Pool
  - Hamilton Davis
  - Justin Somelofske
  - Kate Mixson
  - Michael Wallace
  - O'Neil Morgan
  - Ryan Deyoe
  - Scott Connuck

## Agenda

- I. Status Update & Stakeholder Feedback
  - Introducing James Russell - CRA
  - DESC IRP Process & Schedule Update
  - Stakeholder Engagement Since Session VIII
  - Review of Stakeholder Homework from Session VIII
- II. 2022 IRP Update
  - Key Takeaways
  - Build Plans and Cases
  - Summary of Core Build Plans
  - Modeling Results
- III. Stakeholder Rapid Feedback
  - Energy Futures Group
  - Sierra Club

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- IV. 2023 IRP
  - Key Changes
- V. Preparing for Session X and Next Steps
  - Setting Expectations for Session X
  - Session IX Homework

## Meeting Minutes

### Status Update & Stakeholder Feedback

Mr. James Russell from CRA opened the meeting and introduced the agenda for Session IX, highlighting the 2022 IRP Update and introducing key changes that will be made in the 2023 IRP.

Mr. Russell then reminded the advisory group that DESC requests stakeholders submit questions through the chat function and that Stakeholders would have an opportunity for dialogue after the initial response to their question was provided. He explained to the advisory group all questions submitted in chat would be answered, and that any not addressed live in the meeting would be responded to in writing on DESC's IRP Stakeholder Advisory Group website.

### DESC IRP Process & Schedule Update

Mr. Russell then reviewed the schedule of the IRP process, which includes Session IX, Session X, and Session XI. DESC plans on addressing the 2022 IRP Update as well as the 2023 IRP key changes within Session IX. This will be followed by Session X on December 7, 2022, which will contain the 2023 DSM Potential Study, the Reserve Margin/ELCC Study, the 2023 Guidehouse EV Study, 2023 IRP inputs, the status on the 2022 TIA, and the implications of the Inflation Reduction Act (IRA) on future IRPs. Session XI, tentatively scheduled for February 2023, will contain 2023 IRP key takeaways and modeling results, and will identify short- and long-term goals for future stakeholder engagement. astrapé

### Stakeholder Engagement Since Session VIII

After reviewing the IRP process and schedule update, Mr. Russell addressed Session VIII-A and the discussion on DSM modeling techniques. Additionally, he noted that DESC provided inputs to the 2022 IRP Update to stakeholders, responded to comments, and provided PLEXOS modeling files on the SharePoint site. DESC intends to submit new unit inputs to stakeholders ahead of filing the 2023 IRP.

### Session VIII Homework

After reviewing the stakeholder engagement since Session VIII, Mr. Russell moved on to review stakeholder homework from Session VIII. This was split up into five categories: general feedback, modeling approach, new unit assumptions, market scenarios, and risk metrics.

1. Agenda Feedback: Topics to address at future sessions.

Mr. Russell began by reviewing stakeholder feedback related to topics to address at future sessions.

The first question asked by stakeholders was for an update on the Reserve Margin Study that is ongoing ahead of the 2023 IRP. DESC responded, stating that they have selected the vendor, have executed an agreement, and are assembling necessary data requirements to move forward with the Reserve Margin/ELCC Study. DESC also emphasized that results from the Reserve Margin/ELCC Study will be shared with stakeholders as soon as available and included in the 2023 IRP.

The next stakeholder comment was asking DESC for a discussion of results from the additional TIA cases studied beginning Q3 2022, and how they will be incorporated into the 2022 IRP Update and the 2023 IRP. They also noted that if the study is not yet complete and stakeholders have not had a chance to review the cases assessed, a discussion should be included as part of Session IX. DESC responded to this by stating that they will discuss results with stakeholders once they are available and the results of the 2022 TIA will be incorporated in future IRPs, once available.

Mr. Russell then reviewed comments regarding DESC's proposed annual build limits of 300 MW per year and 150 MW per year of solar and battery storage resources, respectively. Stakeholders had asked for a discussion of DESC's justification for annual build limits of solar and storage and provide sensitivity results if this constraint is relaxed. DESC responded by telling the stakeholders that they will provide a basis in upcoming IRPs and updates for assumptions regarding any annual limits on new resource additions.

The stakeholder comments continued with a request to DESC on the methods they plan to use to calculate the effective load carrying capability (ELCC) and what methods will be used in the resource adequacy modeling. DESC responded by saying that the results of the Astrape Reserve Margin study will be presented at Stakeholder Session X including the results of the ELCC evaluations. This study will be the source of the Reserve Margin requirement and capacity values for renewables used in the 2023 IRP. The stakeholders also asked DESC to provide which risk metric approach they will implement for future IRPs and a discussion on why other approaches were not chosen. DESC stated that they will use risk metrics similar to the 2021 IRP Update and the Coal Plants Retirement Study.

Next, the stakeholders expressed that there often is insufficient time to allow stakeholders the opportunity to provide feedback on the analyses and/or they don't hear about all the critical assumptions until the analysis is finalized. They ask DESC to give stakeholders the opportunity to review draft analyses in their entirety, as well as prepare stakeholder slides as if DESC were on the receiving end of information. DESC will continue to provide updates on draft analyses, but requests feedback on complete analyses once finalized and submitted. DESC appreciates and values stakeholder input, as evidenced by stakeholder presentations at Session VIII-A, and encourage future opportunities for similar engagement.

The stakeholders also felt that there has been a marked shift in the tenor of reaction to stakeholder suggestions in the IRP Stakeholder Process. Whereas before DESC seemed open to negotiate ways to resolve stakeholder concerns, they increasingly see a refusal to even entertain ways to alleviate concerns. DESC stated that they remain open to stakeholders and have acted on many of the suggestions provided by stakeholders throughout the IRP Advisory Process. DESC welcomes the opportunity to discuss and debate topics. However, not all are practical and some suggestions conflict with Commission orders and directives.

The stakeholders also provided some thoughts in advance of the anticipated meeting to discuss modelling energy efficiency (EE). DESC responded by saying that they have provided this list to the DSM team who has already shared it with the ICF Planning Team. DESC also mentioned that this discussion is best addressed by the Energy Efficiency Advisory Group.

Lastly, the stakeholders hope there will be a more robust conversation about the parameters of the next Transmission Impact Analysis before the study commences, so that the upgrade costs and mitigation options can be more thoroughly and accurately explored for the 2023 IRP. DESC responded saying that the 2022 TIA draft was discussed and shared with stakeholders prior to submission. Many items requested by stakeholders were incorporated into the 2022 TIA. As previously stated, the 2022 TIA results will be shared with stakeholders when available at a future stakeholder meeting.

## **2. Elements of the Retirement Study to use in future IRPs?**

Mr. Russell then moved on to responses regarding DESC's modeling approach. Stakeholders commented that they expect that the upcoming IRPs will consider the same kinds of costs and benefits as well as the prudence and timing of ELG related expenditures versus retirement options. Beginning no later than the 2023 IRP, they expect that DESC will evaluate ratepayer risks, including volatility in natural gas and coal prices, pressures associated with carbon and other environmental regulations/legislation, and reliability and resilience considerations, in making final retirement decisions. DESC appreciates these comments and aims to prioritize these recommendations into short- and long-term goals following the filing of the 2023 IRP.

Mr. Russell then reviewed stakeholder recommendations for the Coal Plants Retirement Study, including an expanded TIA that evaluates on-site replacement for Williams, the inclusion of location specific gas-pipeline and transmission upgrade costs, and a more refined construction timeline estimate. DESC responded by thanking the stakeholders for their recommendations and stating that they have already requested a second TIA, the 2022 TIA, that incorporates the on-site replacements. The results from the 2022 TIA will inform future IRPs.

This was followed by a stakeholder comment on how the coal retirement study clearly indicates that early retirement of the Wateree and Williams coal plants is cost effective and beneficial to customers under a majority of the retirement scenarios studied. DESC thanked the stakeholders for the comment and indicated that the results from the Coal Plants Retirement Study will inform the 2022 IRP Update.

Mr. Russell then addressed stakeholder concerns regarding the accuracy of the retirement study. While stakeholders believe that using the "optimal" dates from the study is a reasonable starting point, DESC ought to examine earlier Williams retirement dates as well. DESC responded stating that they see the dates from the retirement study as "no-earlier-than" dates rather than "optimal" dates.

## **3. Agree with carrying RP8 approach despite use of optimization?**

Mr. Russell then reviewed stakeholder comments stating that they would like to see both an optimized portfolio and the RP8 portfolio modeled in the 2022 IRP Update. Stakeholders agree with DESC that RP8, the preferred plan from the 2021 IRP Update, should be considered in future IRPs. DESC says they will include this comparison in the 2022 IRP Update.

Mr. Russell then responded to stakeholder comments that DESC should consider portfolios R06 and R06b from the Coal Retirement Study comments, which consider an accelerated retirement of Williams

in 2028 and a scenario that includes a standalone storage or other replacement resource located at or near the Williams site. DESC plans to evaluate replacement of some generation at the Williams site as proposed by stakeholders. DESC believes the 2028 retirement date for Williams is infeasible as described in the Coal Plants Retirement Study.

**4. Additional resource types to consider?**

Mr. Russell responded to stakeholder comments in the new unit assumptions section by stating that DESC has considered Reciprocating Internal Combustion Engines, New Aeroderivative CTs, and Offshore wind as potential future resources.

Mr. Russell then addressed stakeholder recommendations for DESC to consider additional levels of energy efficiency and demand response, by stating that DESC intends to model DR as a selectable resource as the data from the 2023 DSM Potential Study becomes available. He also noted that the levels of EE developed by the EEAG are in compliance with Commission Requirements, but that DESC will consider modeling advanced technologies in future IRPs as advanced technologies become available and cost-effective.

**5. Cost & performance assumptions provided by DESC reasonable?**

Mr. Russell continued by raising stakeholder concerns that DESC's proposed fixed and variable O&M costs were quite different from other sources. DESC responded by thanking the stakeholders for their comment and saying that they will review cost input assumptions as suggested by stakeholders.

The stakeholders also had expressed that they appreciate DESC's continued use of the NREL ATB cost assumptions for their solar and storage candidate resources, including using the recently released 2022 ATB which provides DESC and stakeholders a transparent data source where all parties can review and understand the assumptions incorporated in the capital cost trends for different technologies. However, stakeholders do not support the use of DESC's "Green Sheets" for thermal unit cost assumptions given the capital cost of thermal resources in the Green Sheets are vague and are difficult for stakeholders to verify against alternative thermal resource capital cost sources such as the U.S. EIA or NREL ATB. DESC thanked the stakeholders for their comments and stated that they will use NREL ATB, DE Green Sheets, or other industry source if one is determined to more closely represent actual project cost in DESC's service territory. Mr. Russell noted that DESC receives Green Sheet capital costs from DE Project Construction Group which are based off real construction expenditures that are specific to location and current market conditions.

**6. ELCC values for new storage resources reasonable?**

Mr. Russell then shared stakeholder comments that it would be reasonable for DESC to use the proposed schedule of declining ELCC values as a temporary measure for the 2022 IRP Update. However, they support the use of results from the ELCC Study to inform the 2023 IRP as the Company noted. The stakeholders also would like additional information on the studies, methodologies, and assumptions being considered by DESC for the resource adequacy assessments. DESC will share the results from the

Reserve Margin/ELCC Study with stakeholders during Session X and plans to model the results in the 2023 IRP.

Mr. Russell then shared stakeholder sentiment that similar attention should be given to the ELCC of solar, coal, gas, hydro, etc. They recommend using a temporary value of a thermal unit's capacity minus the equivalent forced outage rate as the firm capacity value until a more in-depth analysis can be completed. DESC stated they intend to incorporate recommendations of the pending Reserve Margin/ELCC study in its 2023 IRP.

**7. Proposed Market Scenarios for the 2022 IRP Update reasonable?**

Mr. Russell then moved on to the market scenarios section. DESC responded to stakeholder requests to include coal price and/or coal availability sensitivity cases in the upcoming IRPs by stating that the Market Scenarios will include fuel price sensitivities for the 2022 IRP Update that capture the correlation between natural gas and coal prices. The High Fossil Fuel Prices Market Scenario is being considered as a good proxy for the financial impact of a coal constrained scenario.

Mr. Russell then shared that stakeholders have proposed three additional market scenarios which can be readily implemented using DESCs existing input assumptions. DESC thanked the stakeholders for the proposed scenarios and expressed that they will be considered in the development of the 2023 IRP.

The stakeholders had also expressed some concerns about relying on the AEO 2022 to capture the likely trajectory of gas prices in the Base Case. DESC's base case settles out at about \$3.50 per MMBtu but current forwards are generally in the range of \$4.00 per MMBtu or higher. DESC responded that per PSC directive, they will continue to use publicly available forecasts for gas price inputs.

**8. Risk metrics DESC should include?**

Starting off the risk metrics section, the stakeholders stated that they would like the Company to discuss the possibility of modeling risk factors in PLEXOS stochastically, instead of hard-coding combinations of risk factors. A stochastic approach can also accurately capture the inherent volatility in the gas and coal commodity markets. At present the Company's gas and coal price forecasts escalate steadily over time, which differs from real world commodity prices that move up and down over time in a random pattern. By modeling stochastically, the Company's gas and coal forecasts could account for temporary commodity price spikes like those occurring presently and could optimize future expansion plans around such volatility. DESC responded, emphasizing their desire to prioritize stakeholder engagement on the results of the 2023 DSM Potential Study, Reserve Margin/ELCC Study, and TIA update, because of the short timeline before the 2023 IRP submission. DESC continues to support exploring the use of stochastic in the IRP process. DESC plans to add this topic for discussion at stakeholder sessions following the 2023 IRP.

Stakeholders followed this by recommending that DESC should include risk metrics in line with a minimax regret score and the TVA Monte Carlo distribution method. Combining these two approaches provides DESC with many scenario results based on the stochastic sampling of inputs with the benefit of a simple minimax regret score for each portfolio option across many scenarios.



Alternatively, DESC could select the optimized portfolios from their deterministic capacity expansion modeling under the DESC and stakeholder proposed market scenarios and then conduct a spreadsheet analysis of the robustness of each portfolio against a range of sensitivities that go beyond the small subset of market scenarios embedded in PLEXOS.

DESC thanked the stakeholders for their recommendations and stated that they plan to use risk metrics consistent with the 2021 IRP Update. DESC is open for discussion on the topic of risk metrics and is open to considering different approaches.

Mr. Russell then turned to stakeholders concerns with the proposal to narrow the retirement dates to those that were “optimal” in the Coal Plants Retirement Study and to apply strict tunnel constraints to resource additions will likely narrow the portfolios to a few outcomes. They are concerned that this doesn’t allow DESC to meet the requirements of Act 62. DESC informed the stakeholders that the results of the Coal Plants Retirement Study will inform the 2022 IRP Update as ordered by the Commission. Any constraints to resource additions will be fully explained.

Lastly, the stakeholders proposed that DESC model portfolio performance during extreme events, ideally both winter and summer. DESC responded by stating that their current reserve margins for both winter and summer do factor in impacts from extreme events. As previously discussed, DESC has engaged a vendor to conduct a Reserve Margin/ELCC Study to inform DESC’s 2023 IRP.

#### Additional IRP Advisory Group Feedback Since Session VIII

Mr. Russell then moved on to discuss additional feedback not included in the five categories requested from Session VIII.

The first stakeholder comment was that DESC seemed to be saying during the last meeting that it would not model the DSM levels in the Commission Order because the 2023 DSM Potential Study would not be completed in time for the 2022 IRP Update. DESC responded that following PSC Commission Order 2020-832, the 2023 IRP will include the results from the new 2023 DSM Potential Study performed in collaboration with the Energy Efficiency Advisory Group. This study will include a comprehensive evaluation of the cost-effectiveness and achievability of DSM portfolios reaching 1% and higher savings including savings levels of 1.25%, 1.5%, 1.75% and 2.0%. Since the new study is currently underway, the results were not available to be included in 2022 IRP Update. The study timeline and updates have been shared with both the Energy Efficiency Advisory and IRP Stakeholder Advisory groups and will continue prior to the filing of the 2023 IRP.

Next, stakeholders said that the language in the 2020 IRP order echoes the language of Act 62, which requires “several resource portfolios developed with the purpose of fairly evaluating the range of demand-side, supply-side, storage, and other technologies and services available to meet the utility's service obligations.” DESC replied, saying the Commission ordered DESC to include these requirements in its 2021 IRP Update. In its directive dated, July 28, 2022, the Commission ruled that Dominion has met the requirements for the 2021 IRP Update. Mr. Russell reiterated that DESC is happy to work with



stakeholders to improve its integrated planning; however, the Company's position is that they have fully satisfied the Commission's order and will continue to meet Act 62's requirements in future IRPs.

Mr. Russell then shared stakeholder data from the American Council for an Energy-Efficient Economy's ("ACEEE") 2020 Utility Energy Efficiency Scorecard. DESC thanked the stakeholders for the feedback and information from ACEEE and have shared this information with the DSM team. Mr. Russell also noted that the 2023 DSM Potential Study will be grounded in DESC service territory data to include updated residential and non-residential market characterization data that will feed into the new study.

Finally, in response to stakeholder comments stating that it appears DESC did not take any steps to explore the documentation of the NSRDB data, Mr. Russell explained that DESC did investigate the NSRDB documentation and found inconsistencies as reported in Stakeholder Advisory Group Session VII. As such, DESC appreciates the suggestion, but they will not be moving forward with the NSRDB data.

Mr. Russell then opened up the floor for questions on stakeholder comments since Session VIII. These questions are addressed in Appendix Table 1: Questions 1-3.

## Overview of Key Changes in the 2022 IRP Update

Mr. James Neely then continued the presentation. Mr. Neely began by giving an overview of the build plans and cases that were modeled. He stated that the 2022 IRP Update will be replaced by the 2023 IRP in January 2023. Addressing a previous comment, Mr. Neely mentioned that the Commission requested a January filing. He then moved on to discuss how the 2022 IRP Update was the first full implementation of the resource optimization model, which DESC will continue to improve upon. Retirement dates were informed by DESC's Coal Plants Retirement Study. Mr. Neely stated that a few new resource options were added, and small modular reactors (SMRs) and offshore wind will be available beginning in 2040.

Mr. Neely then noted that the new preferred plan will be an optimized version of RP8 called Williams 2030 Reference Build Plan. This plan will retire Wateree in 2028 and Williams in 2030. Mr. Neely followed this by going over the twelve build plans- 6 core build plans and 6 sensitivity cases. The six core build plans were modeled against three core market scenarios to give a total of 18 core cases. The six sensitivity cases each have their own market scenario. These were modeled to meet the requirements of the IRP statute, and they assume varying market conditions such as CO<sub>2</sub> cost, environmental regulations, load growth, and DSM.

Mr. Neely then moved on to talk about a summary of what is being built in each of the six core build plans. He listed the resources that these plans take into account, including thermal resources, solar and storage resources, SMRs, offshore wind, and how these all make up the total generation built for each plan. Mr. Neely then went over the sensitivity cases, which include the categories of high CO<sub>2</sub> cost, low regulation, stagflation, aggressive environmental regulation, medium DSM, and low DSM.

Next, Mr. Neely presented how the core build plans compare to each other on a net present value basis. He also addressed the different market scenarios, which take into account fuel, CO<sub>2</sub> price, load forecast, and DSM inputs. Mr. Neely showed how each core build plan compares to Resource Plan 8 (RP8), with

respect to NPV. He highlighted how the new preferred plan, Williams 2030 Reference Build Plan, is approximately 6-7% cheaper than RP8. He also mentioned that Williams 2047 Reference Build Plan is slightly cheaper than Williams 2030 Reference Build Plan. Lastly, he showed how the Carbon Constrained Build Plan is significantly more expensive than the other plans.

Mr. Neely followed the NPV comparison with a demonstration of how much carbon each core build plan will emit. He began this by stating that the Carbon Constrained Build Plan is the most expensive, but it emits the least amount of carbon out of all of the core build plans. He noted that for the Carbon Constrained Build Plan to work, the reserve margin needed to be as high as 50% in some years. Mr. Neely mentioned that most plans are projected to emit the lowest amount from 2037-2043. Lastly, he stated that the Williams 2030 Reference Build Plan reduces CO<sub>2</sub> by over 60% in 2037.

Mr. Neely opened the floor for questions on topics covered to this point. Questions are addressed in Appendix Table 1: Questions 4-10. After all questions had been addressed, Mr. Russell announced that the meeting would resume after a 15-minute break.

## **Stakeholder Rapid Feedback**

After a short break, Mr. Russell introduced section III of the meeting: stakeholder rapid feedback. Ms. Anna Sommer took over, presenting for the first stakeholder group.

### **Energy Futures Group**

Ms. Sommer of the Energy Futures Group began by explaining that the slide presented gives a very preliminary view of EFG's position on the 2022 IRP Update. EFG's review has been mostly focused on understanding file architecture, modeling approach, etc. The feedback given was intended to look forward to the production of the 2023 IRP.

Ms. Sommer began by reiterating key points of feedback that intervenors have given DESC in the past on the forthcoming TIA analysis. She stated that it is important that the 2022 TIA be predicated on the most up to date picture of DESC's system including its authorized CT replacements at Bushy Park and Parr and that adding a nodal or zonal analysis in PLEXOS would be a good thing to have because it would allow visibility into issues like congestion in the Charleston load pocket. Ms. Sommer followed this by expressing interest in how DESC will incorporate the provisions of the IRA into the analysis and modeling of the 2023 IRP.

With respect to modeling, Ms. Sommer expressed her concern that some constraints used by DESC are binding or may be limiting other feasible plans. EFG's position is that build limits should be used to manage run times, but they tend to have little relevance to real world conditions when applied for the full length of the planning period. She added that some gas capacity factors appear anomalous in the outer years of the modeling results. For example, EFG believes that gas turbine factors are extremely high in the last eight years of planning period. Ms. Sommer also expressed concern about the build cost estimates. She stated that PLEXOS embeds the calculation of a capital recovery factor into the formula and the approach asks for a WACC while DESC appears to have used a capital recovery factor.

Lastly, Ms. Sommer expressed EFG's interest in having DESC explicitly model in PLEXOS all DSM levels including but not limited to the 2%. She thanked DESC for the opportunity to present and gave Sierra Club the floor.

### **Sierra Club**

Mr. Derek Stenclik began the Sierra Club rapid feedback section by going over the timing of coal plant retrofits and retirements. He highlighted that DESC delayed the Williams Retirement in its preferred plan from 2028 (in the 2021 IRP Update) to 2030 (in the 2022 IRP Update) due to timing concerns of building replacement capacity, gas pipelines and new transmission. Mr. Stenclik stated that Sierra Club believes that additional sensitivities should be evaluated that continue to use the original 2028 date. Mr. Stenclik then suggested that DESC has not properly evaluated faster replacement alternatives that do not require significant transmission upgrades or gas pipeline builds. He finished this point by requesting an additional sensitivity that shows the portfolio assuming a 2028 retirement date, no ELG upgrades, even if DESC does not stand by the replacement timeline. Mr. Stenclik stated that this additional case would provide insight that could be used to inform decision-making, rather than making decisions up-front that constrain the model.

Mr. Stenclik then moved on to express the need for coordinated transmission planning. Sierra Club believes that the PLEXOS model should be updated to include nodal or zonal transmission for the Charleston import constraint. They also state that DESC transmission planning should provide maximum interconnection at specific nodes that avoid major transmission upgrades.

Third, Mr. Stenclik emphasized that the Reserve Margin/ELCC study will be one of the most important inputs for the 2023 IRP. He hopes that the appropriate amount of time and detail is applied to this study. Additionally, Mr. Stenclik added that the ELCC should also be applied to natural gas generators, not just wind, solar, and storage.

Mr. Stenclik followed up this point by discussing DESC's load forecast. He stated that there is a notable increase in load around 2030, which is when a lot of the coal retirement will happen. Mr. Stenclik suggested DESC run some sensitivity around the electrification assumption and assume some level of flexibility in the load.

Lastly, Mr. Stenclik expressed that the charging constraints for solar + storage should be removed. He stated that these constraints were likely not necessary before the IRA, but definitely not necessary now that the IRA is in effect. Mr. Stenclik thanked the DESC team for the opportunity to present and handed over the presentation to Mr. Russell.

### **2023 IRP**

#### **Key Changes**

Ms. Betty Best continued the presentation. Ms. Best began the 2023 IRP section by highlighting an overview of the key changes associated with the 2023 IRP. There are three major studies in progress. Each of these were addressed in the presentation. She then let the stakeholders know that DESC intends

to have the independent consultants working with DESC present at Session X to address stakeholder concerns directly.

Mr. Scott Parker then continued by speaking to the 2022 TIA status update. Mr. Parker first stated that retirement of Wateree does not prompt upgrades in and of itself. The Wateree retirement will, in conjunction with other retirements such as Williams, prompt further investigation into transmission upgrades. Mr. Parker then went into the different retirement scenarios. He highlighted that transmission investments will be greatly impacted by having to secure new rights of way. There is the possibility of requiring new rights of way as well as new interconnections with DESC's neighbors. This could significantly increase transmission costs and DESC is working through these scenarios.

Mr. Parker closed out this section by emphasizing that DESC is working on interconnection queue, cluster studies, and the 2022 TIA cases as quickly and efficiently as possible in order to pass on results to the IRP group. Mr. Parker thanked everyone for their time and handed things over to Ms. Sheryl Shelton.

Ms. Shelton followed Mr. Parker with an overview of the 2023 DSM Potential Study. She reviewed the schedule of the 2023 DSM Potential Study. In June, DESC conducted the EE profile development meeting to include NREL files and load shapes. In August, DESC held another EE Advisory Group meeting to discuss the third-party evaluator recommendations for the planning model. DESC also got comments back from SACE and CCL. DESC plans to hold a meeting on October 20, 2022, to discuss the results and provide feedback. DESC hopes to have the results of the study to share at this meeting.

Mr. Neely continued the presentation by telling the stakeholders that DESC has hired Astrape Consulting to conduct the Reserve margin/ELCC Study. DESC is relying on their methods and expects a final report around the end of November. Mr. Neely stated that the study will provide inputs into the 2023 IRP, summer and winter reserve margins, ELCC values for solar and battery storage. He also mentioned that the year Astrape is studying is 2026 and they are using historical weather years of 1980-2021. Mr. Neely wrapped up this section and Mr. Pat Augustine took over to facilitate further questions and answers. Questions are noted in Appendix Table 1: Questions 11-16.

## **Next Steps & Stakeholder Homework**

### **Outlook to Session X**

Following the discussion of the 2023 IRP, Mr. Russell continued the presentation by discussing next steps. Mr. Russell went over the schedule, stating that stakeholder feedback on today's session is due by November 1<sup>st</sup>. He also mentioned that DESC is planning to release the 2023 IRP inputs in mid to late November. Lastly, Mr. Russell stated that Session X will take place in early December and will include third party consultants who will present the results of their respective studies.

### **Session IX Homework**

Mr. Russell then introduced Session IX homework. The first category is general feedback: What topics should DESC add to the agenda in Session X or as part of a future stakeholder session? The second

category is additional aspects of the 2022 IRP Update that could be considered. Lastly, for the third category, Mr. Russell mentioned that DESC is planning on conducting three stakeholder advisory meetings in 2023 and 2024 and asked the stakeholders for their feedback on this plan.

Mr. Russell then opened the floor to questions. The final question asked is documented in Appendix Table 1: Question 17.

Mr. Russell concluded the meeting by thanking the Stakeholder Advisory Group for their time and reiterating that additional questions can be submitted through the Stakeholder website or emailed to [DESC-IRP-Group@crai.com](mailto:DESC-IRP-Group@crai.com).

**Appendix Table 1: Session IX Q&A**

	Question / Comment	From	Topic	Answer
1	I don't think I caught that. Which part is infeasible for the 2023 IRP?	Anna Sommer	Other feedback from Session VIII	DESC has limited time prior to the 2023 IRP submission deadline and as such will be constrained in the number of changes they can make. In addition to implementing results of the pending studies into the 2023 IRP, the Company wants to identify what stakeholder recommendations can be reasonably accomplished by the 2023 IRP deadline and what should be short- and long-term goals to work through in upcoming stakeholder sessions.
2	We are much more interested in analysis of substance that analysis that checks a box. Having a robust look at EE is important and consistent with commission orders. The 2023 IRP will be different than what we have seen. Making sure we are getting a thorough look at the resource options seems to me like the priority.	Anna Sommer	Other feedback from Session VIII	The 2023 DSM Potential Study is quite extensive, and DESC is awaiting the results. The statement was based on the fact that the results were not able to be put into the 2022 IRP Update, but they will be implemented in the 2023 IRP. DESC does intend to take stakeholder feedback and utilize various levels of DSM found to be cost-effective and achievable.
3	How will the Reserve Margin/ELCC Study inform the accredited capacity values of thermal generators?	Anna Sommer	ELCC Study	This question was addressed by Mr. Neely later in the discussion. The study will be shared in Session X and this question will be answered at that time.

4	Will the stakeholders have an opportunity to comment on scope of the ELCC PRM Study prior to the final results being submitted?	Derek Stenclik	ELCC Study	Due to time constraints, stakeholders will not have the opportunity to influence the study.
5	For the PRM / ELCC study, will DESC be considering average or marginal ELCC? What reliability criterion will be used? How will neighboring power systems be evaluated? What weather years are going to be used? How are thermal resources going to be evaluated? All of these questions will have a material impact on the results and would avoid issues after the study's completion.	Derek Stenclik	ELCC Study	This comment was addressed later in the discussion. Full details will not be available until the study is complete. The company aims to discuss in detail during Session X. Additional units will be considered based on their marginal ELCC (TBD).
6	Why is High DSM not included as one of the Sensitivity Cases?	Forest Bradley Wright	2022 IRP Update	The Core Market Scenario build plans include the high DSM.
7	Are there maximum build limits for any resources?	Derek Stenclik	2022 IRP Update	All of the resources have maximum build limits. The resources have to be limited for the model to be able to solve. Testing was done to ensure that the limits on resources were not too low and overly constraining.
8	Why does the model select new aero CTs in the Williams 2047 plan, but not in the Williams 2030 plan?	Ben Garris	2022 IRP Update	The model selected the most cost-effective resources given the constraints provided.
9	You mentioned an interconnection maximum of 300MW of solar. Is that constraint binding?	Hamilton Davis	2022 IRP Update	The 300 MW constraint on solar limits the amount of capacity that can be built in a year. From a modeling standpoint, DESC chose to limit the number of solar plants based on historical DESC data as well as data from the Duke and Virginia systems.



10	Can you please note the 50% reserve margin again and how that increased that much?	Michael Wallace	2022 IRP Update	The 50% reserve margin is the result of needing to have enough non-emitting resources to drive CO2 reduction. The Company was not trying to build to a 50% reserve margin, but was building enough to satisfy the constraints.
11	DESC states that the cost effectiveness drives the portfolio chosen. Do you mean the measures in any given potential level or something else?	Anna Sommer	2023 DSM Potential Study	DSM options are based on cost-effective programs. DESC has always chosen programs that are cost effective per commission order. The Company is required to evaluate different scenarios, but it doesn't know if they will ultimately be cost effective.
12	Is it possible for stakeholders to receive that preliminary report?	Ryan Deyoe	2023 IRP	The report will be presented by the consultants during Session X. DESC will strive to provide completed reports to stakeholders for review prior to the applicable session.
13	What information is Astrape using to define any import limits into DESC?	Ryan Deyoe	2023 IRP	DESC has provided Astrape the confidential NERC studies that identify the import/export into our system. They are relying on those studies. Because of previous operating experience, the SOCO tie is unavailable when Williams or Jasper is offline.
14	Does "43 weather years" mean "the actual weather data from the previous consecutive 43 years?"	Earnest White	2023 IRP	It is actually 42 weather years. It is the actual weather data from the previous 42 years.
15	Is Astrape relying on any other definitions of transfer limits such as a scarcity pricing curve?	Anna Sommer	2023 IRP	DESC does not know if Astrape is including these details in their study. Please raise the question during Astrape's presentation in Session X.

16	What portfolios will Astrape be looking at?	Anna Sommer	2023 IRP	The portfolios are projected and existing resources for the year 2026 and with 50 different scenarios. DESC is not adding anything before 2026, which is why that year is chosen.
17	Would it be possible to request the duration, frequency, and magnitude of deficiencies in Astrape study.	Anna Sommer	2023 IRP	DESC confirmed that this will be provided as part of the study.